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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/743,911	12/24/2003	Atsushi Denpo	P24368	9182
7055	7590	04/19/2005	EXAMINER	
GREENBLUM & BERNSTEIN, P.L.C. 1950 ROLAND CLARKE PLACE RESTON, VA 20191			AMARI, ALESSANDRO V	
			ART UNIT	PAPER NUMBER
			2872	

DATE MAILED: 04/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/743,911	<b>Applicant(s)</b> DENPO ET AL.	
	<b>Examiner</b> Alessandro V. Amari	<b>Art Unit</b> 2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 March 2004.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 12-15 is/are rejected.
- 7) ☒ Claim(s) 3-11 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>3/26/2004</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2, 13, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishikata et al US 5,956,177 in view of Abe US 6,778,330.

In regard to claims 1 and 15, Nishikata et al teaches (see Figures 1, 3) a polar-axis telescope (21) incorporated in an equatorial telescope comprising an objective lens (L1) that forms an object image, a focal plate that is arranged on a focal plane of said objective lens as described in column 2, lines 67 and column 3, lines 1-2; an eyepiece (L2) that is arranged backward of said focal plate and forms an observed image a polar-axis outer tube (33) that adjusts the azimuth and altitude of said polar-axis telescope; a polar-axis inner tube (34) that is provided in said polar-axis outer tube and that is rotatable around the polar-axis relative to said polar-axis outer tube, said polar-axis telescope being installed in said polar-axis inner tube; and a declination outer tube (35) that is operatively connected to said polar-axis inner tube and that is rotatable around the polar-axis relative to said polar-axis outer tube as described in column 2, lines 48-67 and column 3, lines 1-9.

However, in regard to claims 1 and 15, Nishikata et al does not teach a zoom optical system that is arranged between said objective lens and said eyepiece, and that

makes the observed image appear gradually bigger while maintaining an in-focus situation, and a zoom optical system driver that shifts said zoom optical system along a polar-axis, corresponding to an optical axis of said polar-axis telescope, so as to change a magnification. Further regarding claim 2, Nishikata et al does not teach that said zoom optical system is arranged between said focal plate and said eyepiece, and relays the object image formed on said focal plate to said eyepiece. Further, regarding claim 13, Nishikata et al does not teach that said zoom optical system comprises a condenser lens, a first zoom lens, and a second zoom lens, said first and second zoom lens moving along the polar-axis. Further, regarding claim 14, Nishikata et al does not teach that said zoom optical system comprises a relay optical system.

In regard to claims 1 and 15, Abe teaches (see Figures 1, 3) a zoom optical system (1, 2) that is arranged between said objective lens and said eyepiece, and that makes the observed image appear gradually bigger while maintaining an in-focus situation, and a zoom optical system driver (62, 63, 64) that shifts said zoom optical system along a polar-axis, corresponding to an optical axis of said polar-axis telescope, so as to change a magnification as described in column 6, lines 6-58.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the zoom optical system as taught by Abe in the telescope of Nishikata et al in order to vary the focal length of the telescope for tracking and sighting purposes.

Regarding claim 2, Abe teaches that said zoom optical system is arranged between said focal plate and said eyepiece, and relays the object image formed on said

Art Unit: 2872

focal plate to said eyepiece as shown in Figures 1 and 3 and as described in column 6, lines 6-58.

Regarding claim 13, Abe teaches (see Figures 1, 3) that said zoom optical system comprises a condenser lens (11, 12), a first zoom lens (21), and a second zoom lens (22), said first and second zoom lens moving along the polar-axis as shown in Figures 1 and 3 and as described in column 6, lines 6-58.

Regarding claim 14, Abe teaches that said zoom optical system comprises a relay optical system as shown in Figures 1 and 3 and as described in column 6, lines 6-58.

3. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nishikata et al US 5,956,177 in view of Abe US 6,778,330 and further in view of Sato et al US 4,842,395.

Regarding claim 12, Nishikata et al in view of Abe teaches the invention as set forth above but does not teach that the zoom optical system comprises an erecting optical system.

Regarding claim 12, Sato et al teaches (see Figures 1, 2) that the zoom optical system comprises an erecting optical system (1, 2, 3, 5) as described in column 2, lines 47-65.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the erecting optical system of Sato et al in the telescope of Nishikata et al in view of Abe in order to observe an erect image for improved tracking and sighting purposes.

***Allowable Subject Matter***

4. Claim 3-11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. Claim 3 is allowable over the prior art for at least the reason that the prior art fails to teach or reasonably suggest, "a cam mechanism that comprises a cam tube, a guiding tube arranged coaxial to said cam tube, and a cam follower connected to said cam tube and said guiding tube, said cam mechanism shifting said zoom optical system along the polar-axis in accordance with a rotation of said cam tube" as set forth in the claimed combination. Claims 4-9 are also allowable based upon their dependence on claim 3.

Claim 10 is allowable over the prior art for at least the reason that the prior art fails to teach or reasonably suggest, "a cam tube that accommodates said zoom optical system, and has a moving channel formed on said cam tube; a guide tube that is coaxially arranged around said cam tube, and that has a guiding channel that guides said zoom optical system along a polar-axis, said cam tube being rotatable around the polar-axis relative to said guiding tube, said guiding tube being held so as not to rotate while said cam tube rotates; and a cam follower that is operatively connected to said zoom optical system and that transmits the rotation-motion of said cam tube to said guide ring" as set forth in the claimed combination. Claim 11 is also allowable based upon their dependence on claim 10.

The prior art of record teaches a polar-axis telescope incorporated in an equatorial telescope comprising an objective lens that forms an object image, a focal plate that is arranged on a focal plane of said objective lens; an eyepiece that is arranged backward of said focal plate and forms an observed image; a zoom optical system that is arranged between said focal plate and said eyepiece, and that makes the observed image appear gradually bigger while maintaining an in-focus situation; and a zoom optical system driver that shifts said zoom optical system along a polar-axis, corresponding to an optical axis of said polar-axis telescope, so as to change a magnification. However, the prior art of record does not teach a cam mechanism, cam tube, guiding tube and cam follower and there is no motivation or teaching to modify this difference as derived.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alessandro V. Amari whose telephone number is (571) 272-2306. The examiner can normally be reached on Monday-Friday 8:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on (571) 272-2312. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2872

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ava/ly  
15 April 2005

Alessandro Amari  
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